

Applicants: Sprecher et al.

Serial No.: 10/800,057

Filed: March 12, 2004

For: NOVEL HUMAN KUNITZ-TYPE INHIBITORS AND METHODS RELATING THERETO

In the Claims

Please amend claims 1, 10, 12 and 21.

Per 37 C.F.R. §1.121, the current status of all the claims in the present application is presented below, amended claims are noted to indicated changes made (underlining additions and striking-through deletions) and the text of pending claims not being amended are presented clean.

Claim 1 (currently amended): An isolated human Kunitz-type inhibitor that inhibits ~~blood coagulation plasmin~~ in a mammal and wherein DNA sequence encoding the human Kunitz-type inhibitor hybridizes to nucleotides 138-305 of SEQ ID NO:1 under highly stringent hybridization conditions.

Claim 2 (previously presented): The isolated human Kunitz-type inhibitor of claim 1 wherein any differences between the human Kunitz-type inhibitor and amino acid number 34 to amino acid number 89 of SEQ ID NO:2 are due to conservative amino acid substitutions.

Claim 3 (previously presented): A pharmaceutical composition comprising the human Kunitz-type inhibitor of claim 1.

Claim 4 (previously presented): The pharmaceutical composition of claim 3 wherein the human Kunitz-type inhibitor is isolated from *E. coli*.

Claim 5 (previously presented): A DNA construct comprising a first DNA segment, wherein the first DNA segment is the DNA sequence of claim 1, operably linked to additional DNA segments required for the expression of the first DNA segment.

Claim 6 (previously presented): A host cell comprising the DNA construct of claim 5 wherein the host cell expresses the human Kunitz-type inhibitor encoded by the first DNA segment.

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Claim 7 (previously presented): The host cell of claim 6 wherein the host cell is *E. coli*.

Claim 8 (previously presented): A method for producing human Kunitz-type inhibitor comprising:

culturing a cell according to claim 6; and
isolating the human Kunitz-type inhibitor produced by the cell.

Claim 9 (previously presented): The method of claim 8 wherein the cell is *E. coli*.

Claim 10 (currently amended): An isolated DNA sequence that hybridizes to nucleotides 138-305 SEQ ID NO:1 under highly stringent hybridization conditions, wherein the isolated DNA sequence encodes a human Kunitz-type inhibitor that inhibits ~~blood-coagulation plasmin~~ in a mammal.

Claim 11 (previously presented): The isolated DNA sequence of claim 10 wherein any differences between the encoded human Kunitz-type inhibitor and amino acid number 34 to amino acid number 89 of SEQ ID NO:2 are due to conservative amino acid substitutions.

Claim 12 (currently amended): An isolated human Kunitz-type inhibitor that inhibits ~~blood coagulation plasmin~~ in a mammal and wherein DNA sequence encoding the human Kunitz-type inhibitor hybridizes to nucleotides 39-743 of SEQ ID NO:1 under highly stringent hybridization conditions.

Claim 13 (previously presented): The isolated human Kunitz-type inhibitor of claim 12 wherein any differences between the human Kunitz-type inhibitor and amino acid number 1 to amino acid number 235 of SEQ ID NO:2 are due to conservative amino acid substitutions.

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Claim 14 (previously presented): A pharmaceutical composition comprising the human Kunitz-type inhibitor of claim 12.

Claim 15 (previously presented): The pharmaceutical composition of claim 14 wherein the human Kunitz-type inhibitor is isolated from *E. coli*.

Claim 16 (previously presented): A DNA construct comprising a first DNA segment, wherein the first DNA segment is the DNA sequence of claim 12, operably linked to additional DNA segments required for the expression of the first DNA segment.

Claim 17 (previously presented): A host cell comprising the DNA construct of claim 16 wherein the host cell expresses the human Kunitz-type inhibitor encoded by the first DNA segment.

Claim 18 (previously presented): The host cell of claim 17 wherein the host cell is *E. coli*.

Claim 19 (previously presented): A method for producing human Kunitz-type inhibitor comprising:

culturing a cell according to claim 17; and
isolating the human Kunitz-type inhibitor produced by the cell.

Claim 20 (previously presented): The method of claim 19 wherein the cell is *E. coli*.

Claim 21 (currently amended): An isolated DNA sequence that hybridizes to nucleotides 39-743 SEQ ID NO:1 under highly stringent hybridization conditions, wherein the isolated DNA sequence encodes a human Kunitz-type inhibitor that inhibits ~~blood-coagulation plasmin~~ in a mammal.

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Claim 22 (previously presented): The isolated DNA sequence of claim 21 wherein any differences between the encoded human Kunitz-type inhibitor and amino acid number 1 to amino acid number 235 of SEQ ID NO:2 are due to conservative amino acid substitutions.